

Community Salmon Investigation (CSI) for Highline: 2018 Results

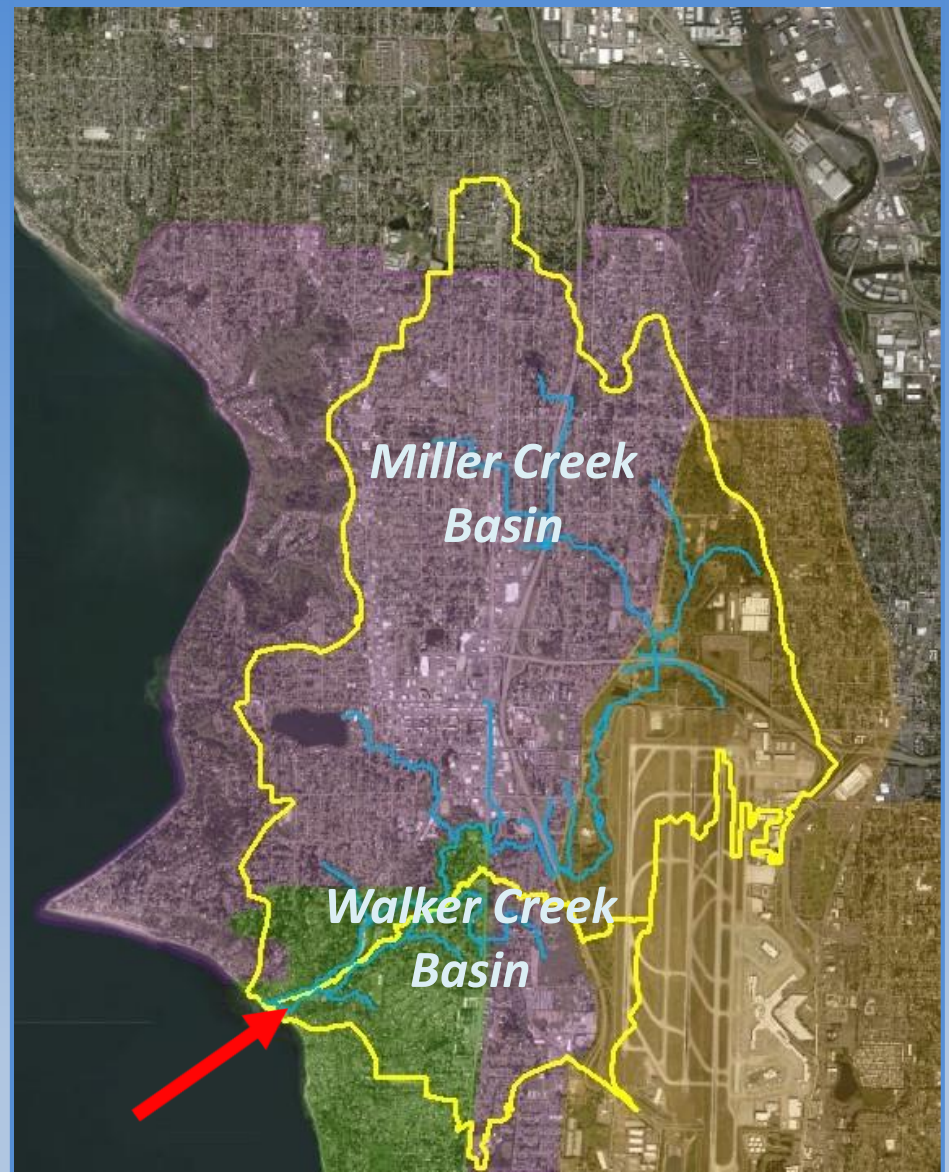
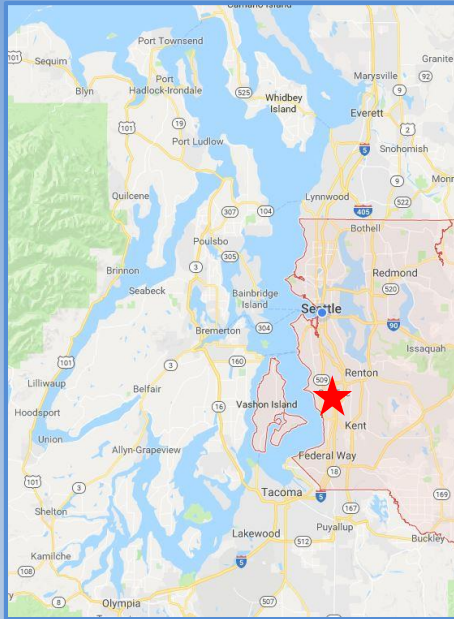
Matt Goehring
Miller-Walker Basin Steward
March 27, 2019



Outline

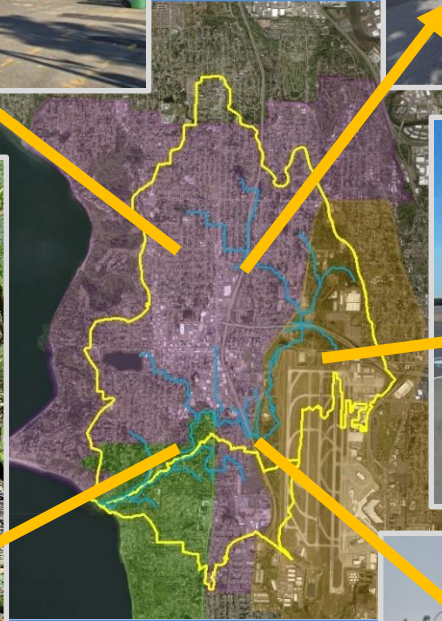
- Program Overview
- Surveys Findings
- Implementing Changes

Miller-Walker Stewardship Program



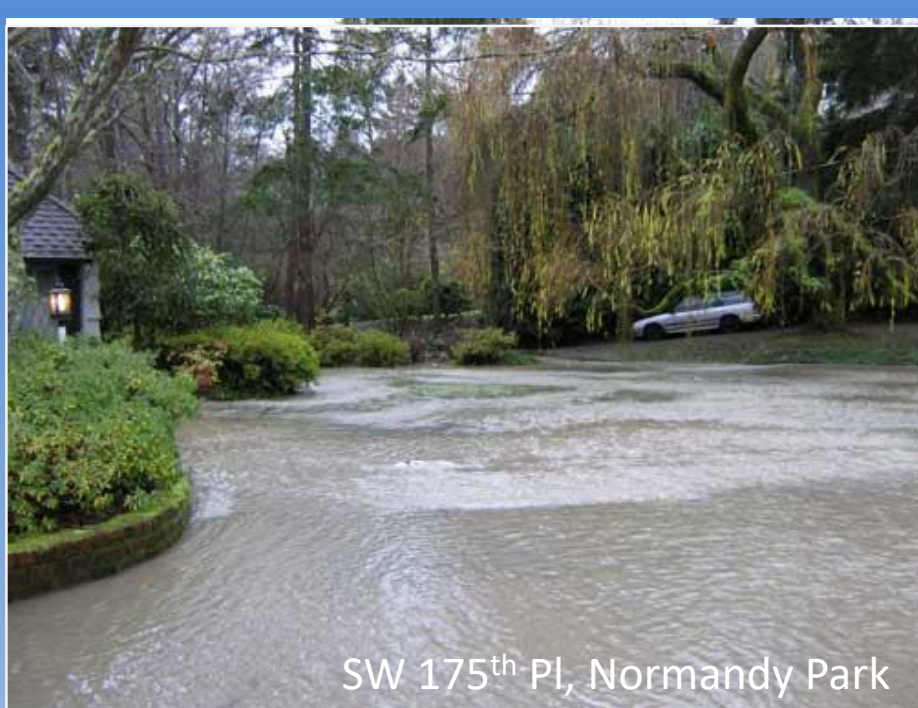
Miller Walker Basin - Local partners working together for clean water and healthy streams

Miller Walker Watershed





144th St Burien



SW 175th Pl, Normandy Park

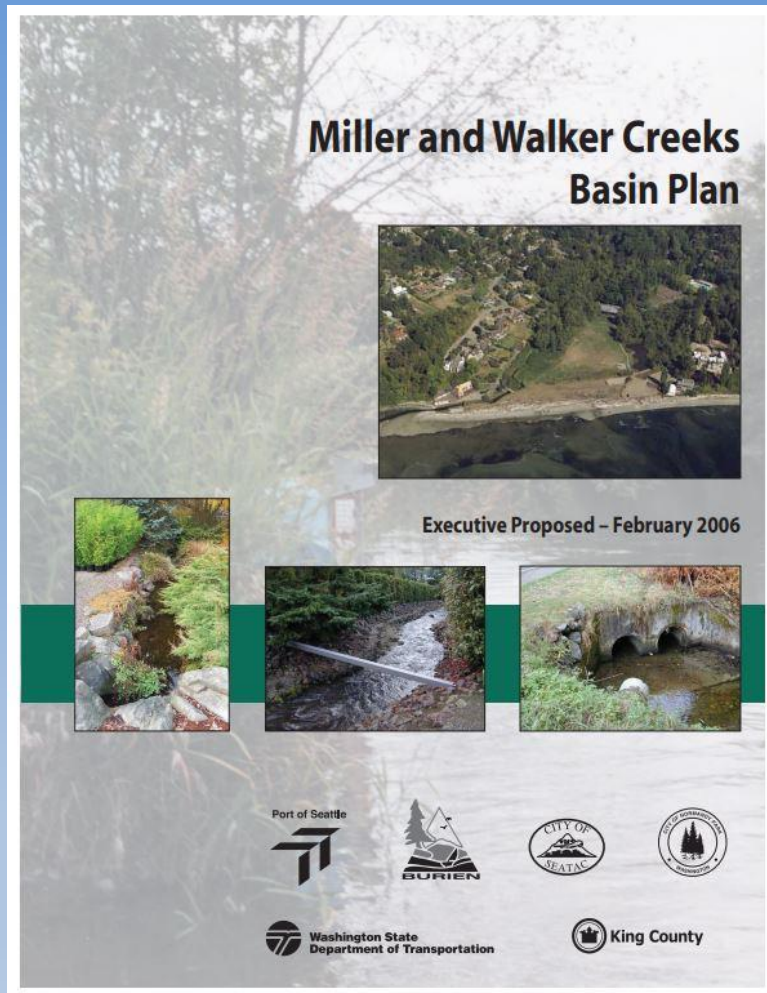


NP Swim Club



Walker Preserve

Miller-Walker Basin Planning



Basin Plan, 2006



**Monitoring Workshops
Burien , 2008**

Miller Walker Basin - Local partners working together for clean water and healthy streams

What type of Salmon are in Miller and Walker Creeks?

Coho



17- 38 in

Chum



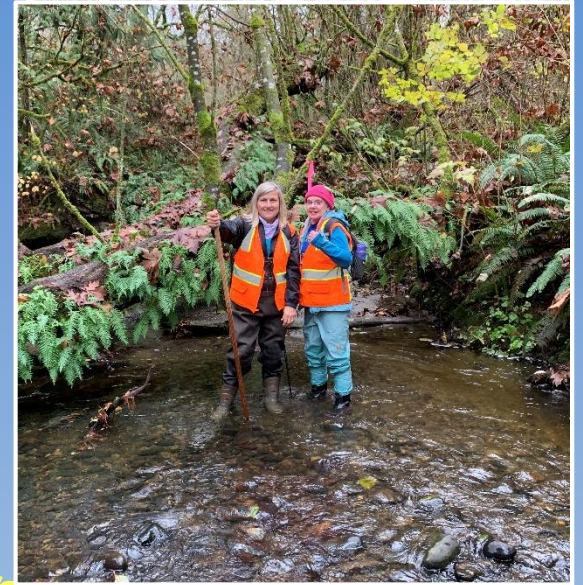
30-42 in



Where? Miller and Walker Creek



Community Driven Effort



32 over 445 volunteers and

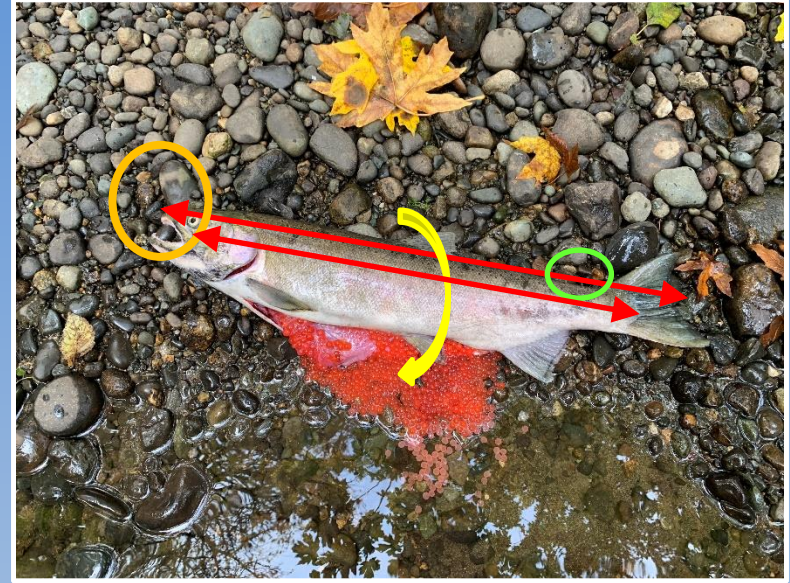
Miller Walker Basin - Local partners working together for clean water and healthy streams

Coho Salmon

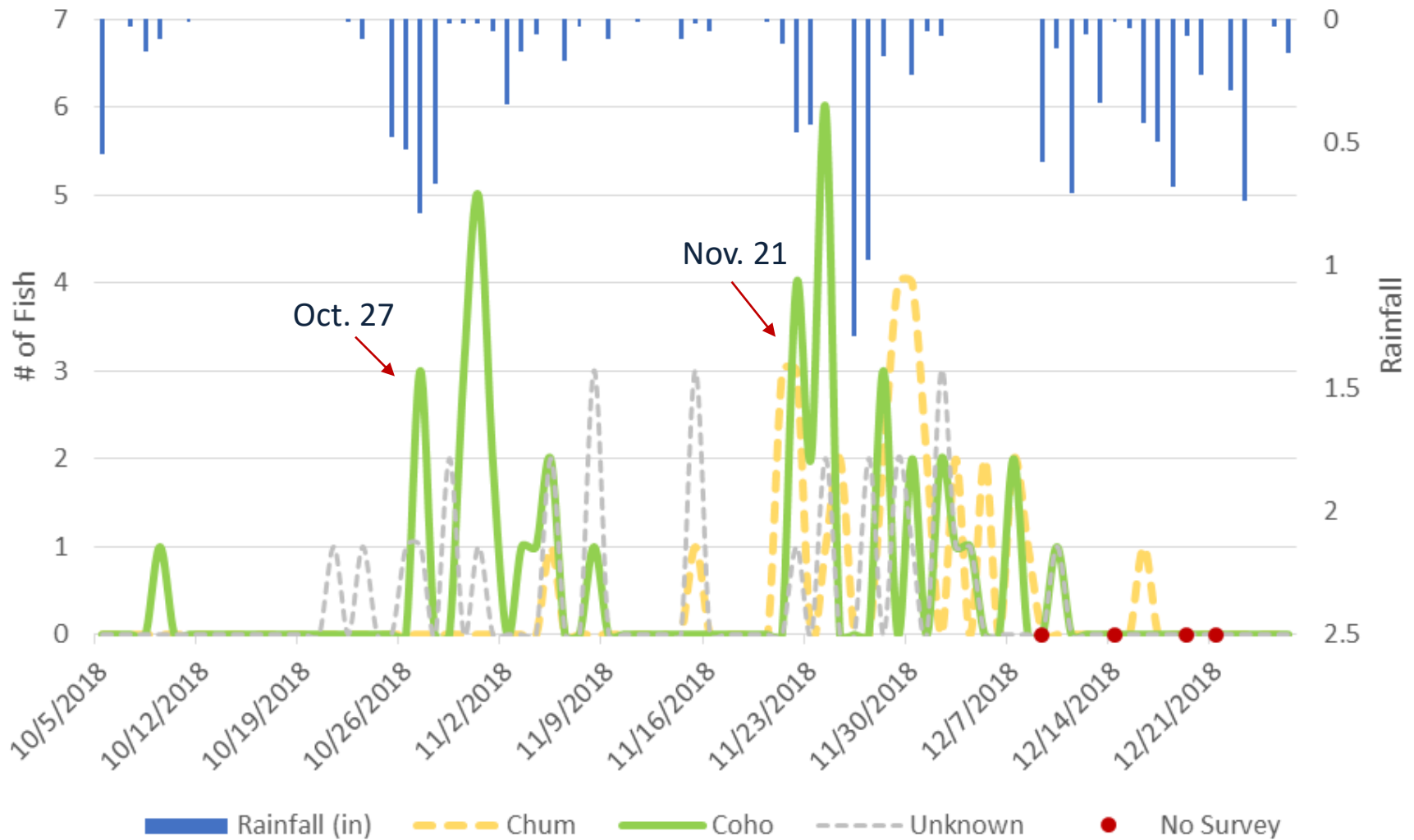


Oct. 30, 2018

Data Collection



2018 Daily Miller-Walker Salmon Count & Rainfall



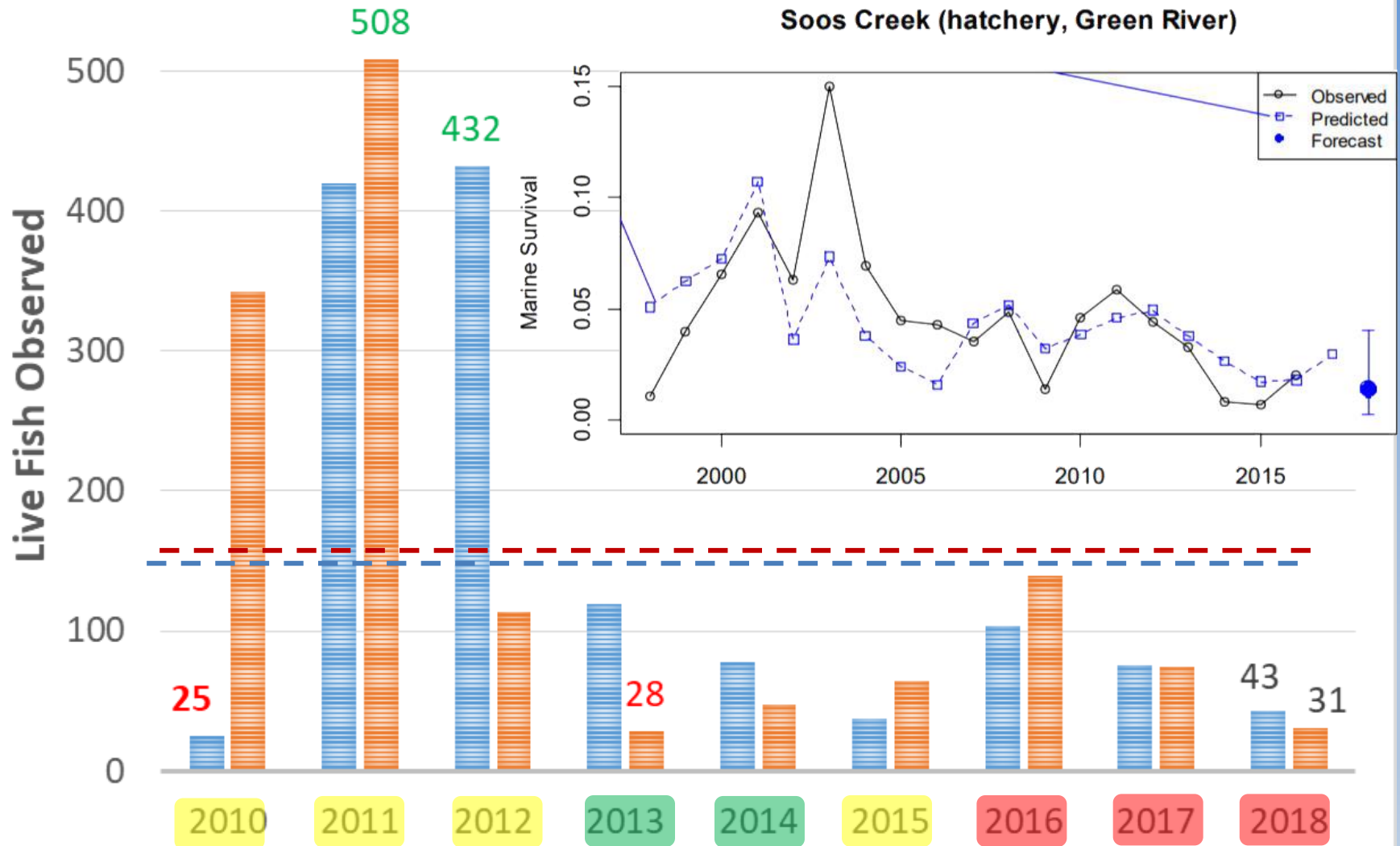
Totals

Coho: 43

Chum: 31

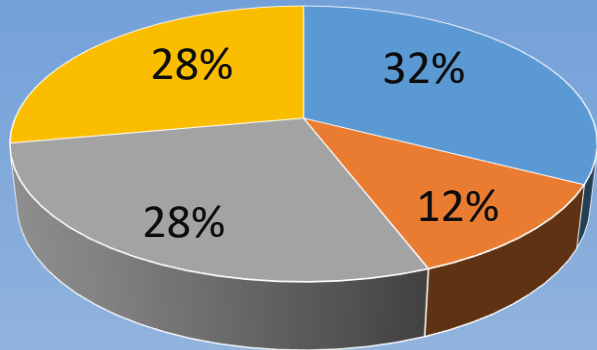
Unknown: 29

Salmon Abundance

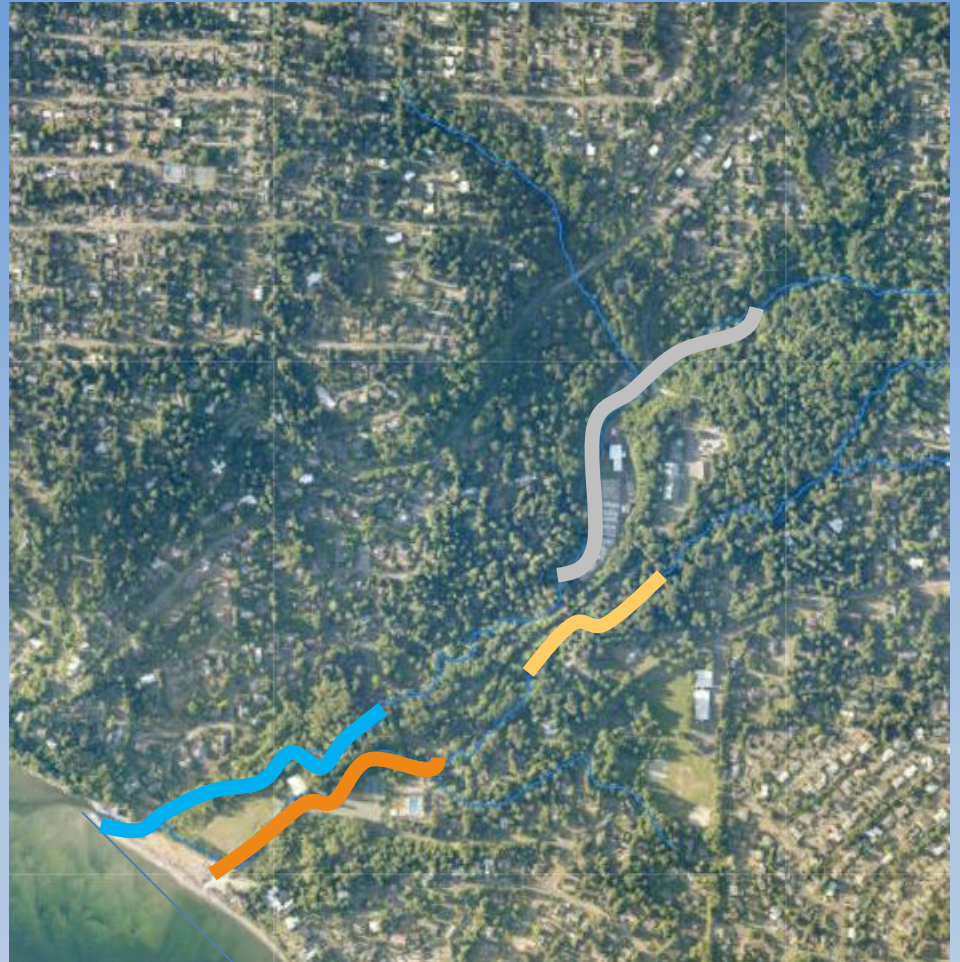
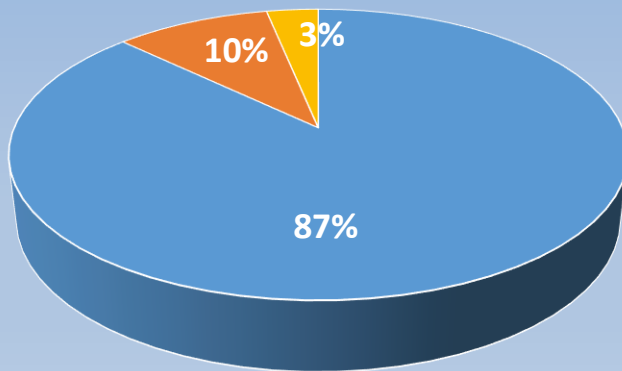


Salmon Distribution

Coho



Chum



Miller Walker Basin - Local partners working together for clean water and healthy streams

Coho Spawning Success



PSM – P. Silimperi



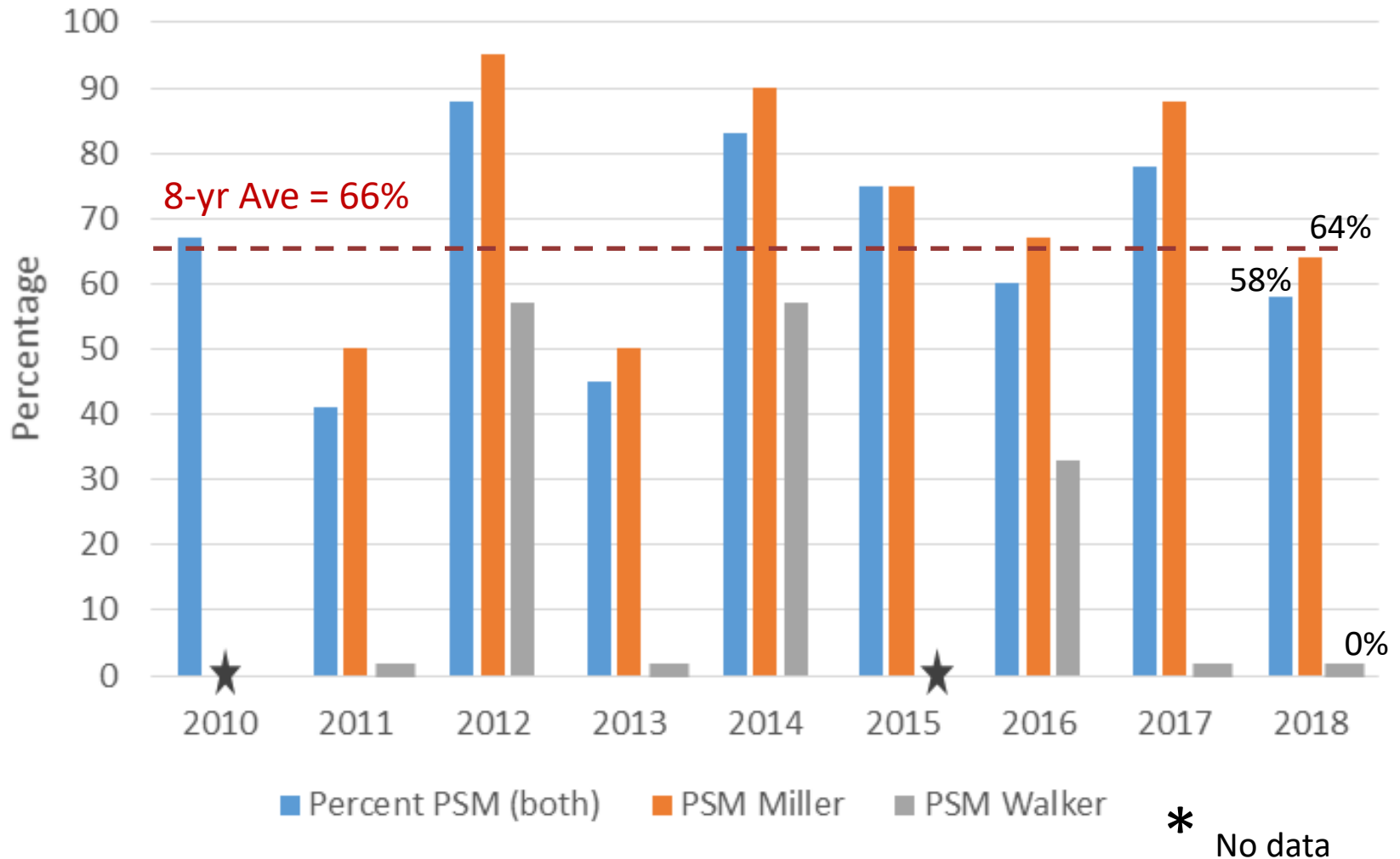
Success! -- L. Moyer



? -- M. Goehring

Miller Walker Basin - Local partners working together for clean water and healthy streams

Coho Pre-Spawn Mortality



Emerging Science: Runoff Toxicity



Photos: Tiffany Royal,
Northwest Indian Fisheries Commission

0% Survival


Spromberg et al., 2015. Coho spawner mortality in western US urban watersheds: biofiltration prevents lethal stormwater impacts. Journal of Applied Ecology



100% Survival

Stormwater Retrofit Planning

MILLER-WALKER BASIN STORMWATER RETROFIT PROJECT



IMPLEMENTATION PLAN

MARCH 2015



**MILLER-WALKER BASIN
STORMWATER RETROFIT PROJECT**

**PROJECT STUDY AREA: BURIEN SITE #24
12TH AVE SW FROM SW 148TH ST TO SW 152ND ST**

Opportunities	Planning-Level Construction Cost Range	Runoff and Pollutant Load Reduction
<ul style="list-style-type: none"> • Provide enhanced water quality treatment and flow control for the site • Provide traffic calming and improved pedestrian and bike safety • Demonstrate LID techniques along planned pedestrian and bicycle corridor • Leverage the City of Burien's plans to construct sidewalks and bike lanes on both sides of the street 	Low end: \$664,000 Middle: \$948,000 High end: \$1,422,000	Avg. Annual Vol. Infiltrated (ac-ft/yr): 5.11 Copper (Lbs/yr): 0.06 Fecal Coliform (MPN in billions/yr): 0 Nitrogen (Lbs/yr): 1.74 Phosphorus (Lbs/yr): 1.27 Suspended Solids (Lbs/yr): 444.11 Zinc (Lbs/yr): 0.63
Constraints	Drainage Area (SF)	
<ul style="list-style-type: none"> • Shallow infiltration not feasible and shallow ground water levels observed during soil explorations • The sidewalk grade adjacent to the apartment complex on the east side of 12th Ave SW, north of SW 151st Street, will need to be flush with the existing parking lot grades 	Roof: 0 Sidewalk: 11,662 Parking: 24,683 Roadway: 41,702 Pervious: 6,007 Total: 84,054	



Existing Condition


12th Ave SW between SW 148th St and SW 152nd St

Typical BMP Concept - Curb Bulbout Bioretention


Typical BMP Concept - Permeable Parking


80 potential projects

→ 30 high priority projects

→ 4 Pre-engineering Design

Community Stormwater Retrofits



King Co. District Court, Burien



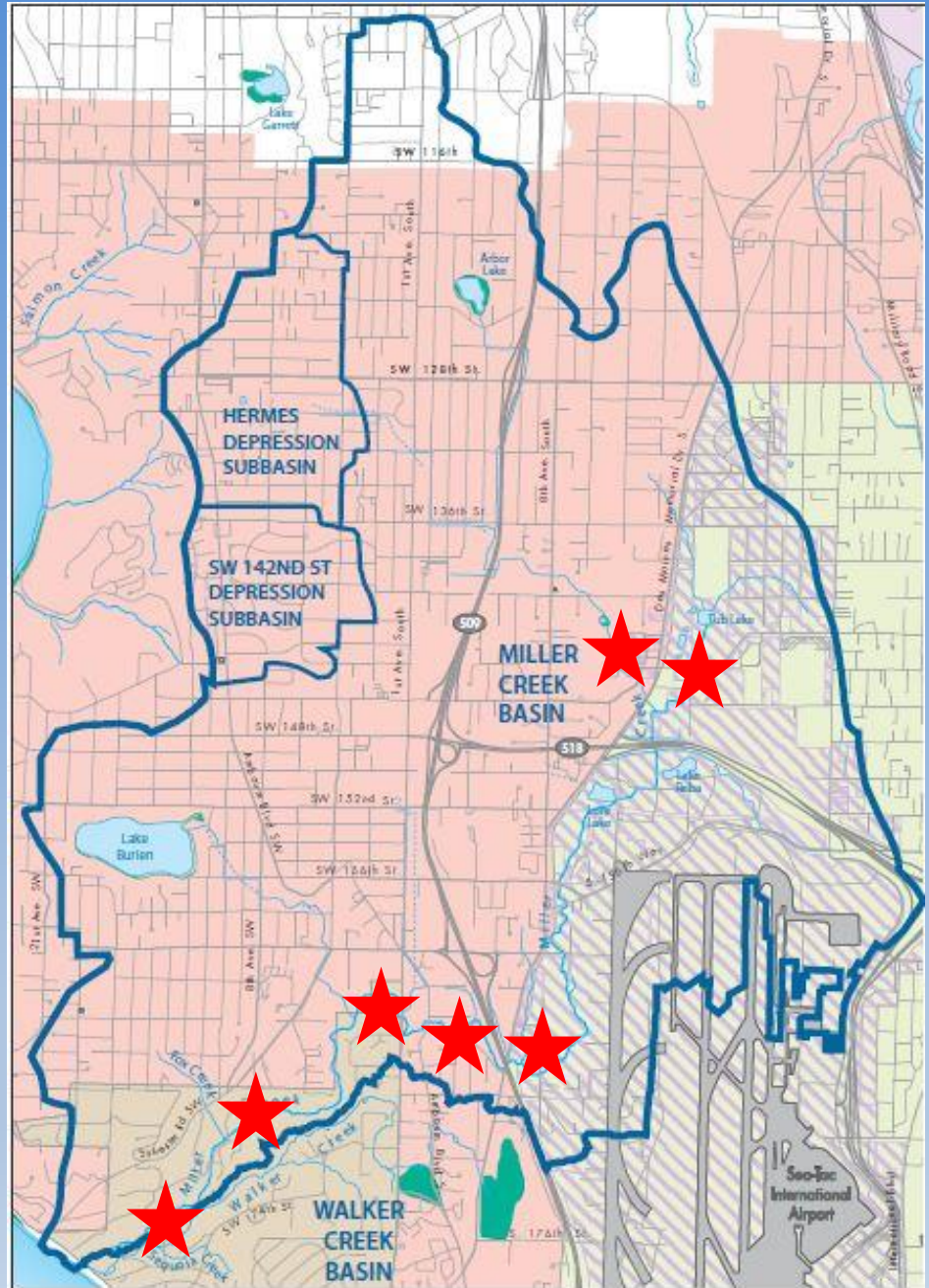
Rain Gard Learn & Do



SW 165th St, Burien

Looking Forward

- 10th Anniversary
- Center for Urban Waters Partnership
- Stormwater retrofits
- Outreach and education



Thank You!!



**Miller Creek Park,
Burien: May 18th**

**Walker Preserve,
Normandy Park:
April 27th**



Matt Goehring

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